

# PATENT COOPERATION TREATY

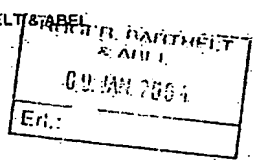
WO 03/106867  
PCT/EP03/06422

From the INTERNATIONAL BUREAU

## PCT

NOTICE INFORMING THE APPLICANT OF THE  
COMMUNICATION OF THE INTERNATIONAL  
APPLICATION TO THE DESIGNATED OFFICES

(PCT Rule 47.1(c), first sentence)

To:
RÜGER, BARTHELT & ABEL Webergasse 3 73828 Esslingen ALLEMAGNE

Ext.:

Date of mailing (day/month/year) 24 December 2003 (24.12.03)		
Applicant's or agent's file reference PA884 PCT lg		
International application No. PCT/EP03/06422	International filing date (day/month/year) 18 June 2003 (18.06.03)	Priority date (day/month/year) 18 June 2002 (18.06.02)
Applicant EATON CORPORATION et al		

### IMPORTANT NOTICE

1. Notice is hereby given that the International Bureau has communicated, as provided in Article 20, the international application to the following designated Offices on the date indicated above as the date of mailing of this notice:

AU, AZ, BY, CH, CN, CO, DE, DZ, EP, HU, JP, KG, KP, KR, MD, MK, MZ, RU, TM, US

In accordance with Rule 47.1(c), third sentence, those Offices will accept the present notice as conclusive evidence that the communication of the international application has duly taken place on the date of mailing indicated above and no copy of the international application is required to be furnished by the applicant to the designated Office(s).

2. The following designated Offices have waived the requirement for such a communication at this time:

AE, AG, AL, AM, AP, AT, BA, BB, BG, BR, BZ, CA, CF, CU, CZ, DK, DM, EA, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, ID, IL, IN, IS, KE, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MG, MN, MW, MX, NI, NO, NZ, OA, OM, PG, PH, PL, PT, RO, SC, SD, SE, SG, SK, SL, SY, TJ, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW

The communication will be made to those Offices only upon their request. Furthermore, those Offices do not require the applicant to furnish a copy of the international application (Rule 49.1(a-bis)).

3. Enclosed with this notice is a copy of the international application as published by the International Bureau on 24 December 2003 (24.12.03) under No. WO 03/106867

4. TIME LIMITS for filing a demand for international preliminary examination and for entry into the national phase

The applicable time limit for entering the national phase will, subject to what is said in the following paragraph, be 30 MONTHS from the priority date, not only in respect of any elected Office if a demand for international preliminary examination is filed before the expiration of 19 months from the priority date, but also in respect of any designated Office, in the absence of filing of such demand, where Article 22(1) as modified with effect from 1 April 2002 applies in respect of that designated Office. For further details, see *PCT Gazette* No. 44/2001 of 1 November 2001, pages 19926, 19932 and 19934, as well as the *PCT Newsletter*, October and November 2001 and February 2002 issues.

In practice, time limits other than the 30-month time limit will continue to apply, for various periods of time, in respect of certain designated or elected Offices. For regular updates on the applicable time limits (20, 21, 30 or 31 months, or other time limit), Office by Office, refer to the *PCT Gazette*, the *PCT Newsletter* and the *PCT Applicant's Guide*, Volume II, National Chapters, all available from WIPO's Internet site, at <http://www.wipo.int/pct/en/index.html>.

For filing a demand for international preliminary examination, see the *PCT Applicant's Guide*, Volume I/A, Chapter IX. Only an applicant who is a national or resident of a PCT Contracting State which is bound by Chapter II has the right to file a demand for international preliminary examination (at present, all PCT Contracting States are bound by Chapter II).

It is the applicant's sole responsibility to monitor all these time limits.

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer:  Judith Zahra
Facsimile No. (41-22) 740.14.35	Telephone No. (41-22) 338.91.11

Form PCT/IB/308 (April 2002)

## PATENT COOPERATION TREATY

PCT

NOTIFICATION CONCERNING  
SUBMISSION OR TRANSMITTAL  
OF PRIORITY DOCUMENT  
(PCT Administrative Instructions, Section 411)

From the INTERNATIONAL BUREAU

To:

RÜGER, BARTHELT & ABEL  
Webergasse 3  
73828 Esslingen  
Germany

Date of mailing (day/month/year) 05 August 2003 (05.08.03)											
Applicant's or agent's file reference PA884 PCT Jg	IMPORTANT NOTIFICATION										
International application No. PCT/EP03/06422	International filing date (day/month/year) 18 June 2003 (18.06.03)										
International publication date (day/month/year) Not yet published	Priority date (day/month/year) 18 June 2002 (18.06.02)										
Applicant EATON CORPORATION et al											
<p>1. The applicant is hereby notified of the date of receipt (except where the letters "NR" appear in the right-hand column) by the International Bureau of the priority document(s) relating to the earlier application(s) indicated below. Unless otherwise indicated by an asterisk appearing next to a date of receipt, or by the letters "NR" in the right-hand column, the priority document concerned was submitted or transmitted to the International Bureau in compliance with Rule 17.1(a) or (b).</p> <p>2. This updates and replaces any previously issued notification concerning submission or transmittal of priority documents.</p> <p>3. An asterisk (*) appearing next to a date of receipt, in the right-hand column, denotes a priority document submitted or transmitted to the International Bureau but not in compliance with Rule 17.1(a) or (b). In such a case, the attention of the applicant is directed to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.</p> <p>4. The letters "NR" appearing in the right-hand column denote a priority document which was not received by the International Bureau or which the applicant did not request the receiving Office to prepare and transmit to the International Bureau, as provided by Rule 17.1(a) or (b), respectively. In such a case, the attention of the applicant is directed to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.</p> <table border="1"> <thead> <tr> <th>Priority date</th> <th>Priority application No.</th> <th>Country or regional Office or PCT receiving Office</th> <th>Date of receipt of priority document</th> </tr> </thead> <tbody> <tr> <td>18 June 2002 (18.06.02)</td> <td>0213937.6</td> <td>GB</td> <td>24 July 2003 (24.07.03)</td> </tr> </tbody> </table>				Priority date	Priority application No.	Country or regional Office or PCT receiving Office	Date of receipt of priority document	18 June 2002 (18.06.02)	0213937.6	GB	24 July 2003 (24.07.03)
Priority date	Priority application No.	Country or regional Office or PCT receiving Office	Date of receipt of priority document								
18 June 2002 (18.06.02)	0213937.6	GB	24 July 2003 (24.07.03)								
The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. (41-22) 338.89.75		Authorized officer Aurora CENDANA (Fax : 338 89 75) Telephone No. (41-22) 338 9905									

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

(Rationalised Report according to the Notice of the President of the EPO published in the OJ11/2001)

Applicant's or agent's file reference <b>EATO PA 884 PCT jg</b>	FOR FURTHER ACTION      See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. <b>PCT/EP03/06422</b>	International filing date (day/month/year) <b>18/06/2003</b>	Priority date (day/month/year) <b>18/06/2002</b>
International Patent Classification (IPC) or national classification and IPC <b>F16H61/12</b>		
Applicant <b>EATON CORPORATION et Al.</b>		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 2 sheets, including this cover sheet.  
☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).  
 These annexes consists of a total of \_\_\_\_\_ sheets.

3. This report contains indications relating to the following items:
  - I ☒ Basis of the report
  - II ☐ Priority
  - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
  - IV ☐ Lack of unity of invention
  - V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
  - VI ☐ Certain documents cited
  - VII ☐ Certain defects in the international application
  - VIII ☐ Certain observations on the international application

Date of submission of the demand <b>18/06/2003</b>	Date of completion of this report <b>28/04/2004</b>
Name and mailing address of the IPEA/ European Patent Office; P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Netherlands Tel.: (+31-70) 340-2040 Fax: (+31-70) 340-3016	Authorized officer: <b>LOKERE H P</b>  Tel. (+49-89) 2399 2828

Form PCT/IPEA/409 (cover sheet) P20476 (October 2002)



**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. **PCT/EP03/06422**

**I. Basis of the report**

The basis of this international preliminary examination is the application as originally filed.

**V. Reasoned statement under Rule 66.2(a)(II) with regard to novelty, inventive step or industrial applicability**

In light of the documents cited in the international search report, it is considered that the invention as defined in at least some of the claims does not appear to meet the criteria mentioned in Article 33(1) PCT, i.e. does not appear to be novel and/or to involve an inventive step (see international search report, in particular the documents cited X and/or Y and corresponding claim references).

Eaton PA 884 PCT

PA 884 PCT

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
24 December 2003 (24.12.2003)

PCT

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(71) Applicant (for all designated States except US): EATON  
CORPORATION [US/US]: Eaton Center, 1111 Superior  
Avenue, Cleveland, OH 44114 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): WHEELER,  
Robert, Stanley [GB/GB]; 15 The Ferns, Lostock Hall,  
Preston, Lancashire PR5 5QT (GB). STASIK, Anthony  
[GB/GB]; 28 Netherley Road, Coppull, Lancashire PR7

SEH (GB); HAWARDEN, Jeffrey [GB/GB]; 9 Laburnum  
Rd., Helmshore, Rossendale, Lancashire BB4 4LF (GB).  
CHAN, Kwok, Wah [GB/GB]; 4 Kielder Hill, Middleton  
M24 6TF (GB).

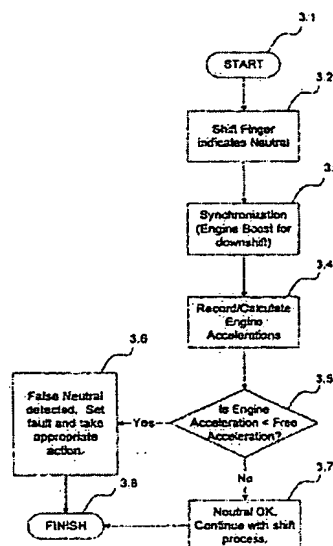
(74) Agent: RÜGER, BARTHELT & ABEL; Webergasse 3,  
73828 Esslingen (DE).

(81) Designated States (national): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,  
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GI,  
GM, GR, GU, HK, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,  
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,  
MX, MY, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC,  
SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG,  
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KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
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European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
ES, FI, FR, GB, GR, HU, IE, IT, LI, MC, NL, PT, RO,

[Continued on next page]

(54) Title: METHOD OF DETECTING FALSE NEUTRAL IN AN AUTOMATED TRANSMISSION SYSTEM



(57) Abstract: A method and system for controlling downshifting in an automated mechanical transmission system utilized on a vehicle. When an automatic power downshift from a currently engaged ratio is required, the engine acceleration is monitored and compared with an engine free acceleration to detect a false Neutral condition and to take appropriate action accordingly. Alternatively, a false Neutral condition is detected when the Absolute Value of the rotational speed of the output shaft times the currently engaged gear ratio minus the rotational speed of the input shaft is less than a predetermined value  $(ABS((OS \cdot GR) - IS))$ .

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